THE WATER-POWER PROBLEM IN THE UNITED STATES

WITH PARTICULAR REFERENCE TO THE CAUSES OF THE PRESENT STAGNATION OF WATER-POWER DEVELOPMENT IN THAT COUNTRY[1]

A present-day discussion of water powers in the United States is necessarily a discussion, not so much of their development, as of their lack of development. To a citizen of any European country it must be amazing to note that in the United States millions of kilowatts of water-power energy, the development of which is commercially feasible, have been for years, and still are, running to waste. It is all the more amazing that at the same time millions of dollars of capital have in that country been for years, and still are, vainly demanding opportunities for water-power investment. Many large industries, dependent upon water power, precluded by conditions prohibitive of water-power investment there, have recently located, and others are now seeking location, in other countries. Why is it that, in a country so advanced in general industrial progress, and particularly in the science of the development and transmission of electrical energy, so rich in its natural resources, and so affluent with accumulated wealth and capital, the history of the utilization of this great natural resource is a history, not of progress, but of stagnation? Why is it that, in these recent years, while the development of electrical science has made possible the beneficial use, and therefore the conservation of water powers theretofore wasting by non-use, there has been, comparatively speaking, no water-power development in the United States?

It is not because of lack of enterprise. It is not from a failure to appreciate the wonderful possibilities which exist. It is not because of lack of immediate markets for power. Neither is it because of lack of capital for investment, nor because the investor unreasonably shrinks from the hazards now presented for such investments. The cause is the halting, capricious,

[1] This address was prepared by Mr. Brown for the International Water-Power Congress which was to have been held at Lyons, France, in September of this year but which was indefinitely postponed on account of the European war. As it is a timely discussion of the water-power problem, we have secured the privilege of its publication at this time.—EDITORS.

unreasonable, and sometimes super-sentimental attitude towards the water-power question which is assumed by the Federal and State legislatures. The obstacles to water-power improvement in the United States are purely legislative. Legislative policy, Federal and State, has been lacking in sanity, in consistency, and in constructiveness. Its main characteristic has been inaction. Long-standing legislative obstacles admittedly prohibitive of the investment of private capital in water-power development are kept in force.

THE WASTING WATER POWERS OF THE UNITED STATES

The potential water-power development in the United States may be stated conservatively at 150,000,000 kilowatts. This means the amount ultimately developable. This estimate does not consider present market conditions, nor present possibilities of adequate returns upon investment.

From the latest authentic computations it may be safely stated that there are in our country at least 15,000,000 kilowatts of water power yet unutilized which would now be developed, or would now be in the course of development, if the prevailing legislation in regard to water powers had not been such as to drive private capital from such investments. The amount of water power already commercially utilized in the United States is approximately 5,000,000 kilowatts, while the amount of steam power commercially utilized is three times that amount. Conservation of water powers, therefore, has been so retarded in the United States that 75% of the water-power energy now commercially available in that country is unnecessarily running to waste.

Of this wasting amount approximately 5,000,000 kilowatts are located upon navigable streams, which are, for the most part, outside the public domain, but which are indirectly subject to the regulation of Federal legislation. An equal number are within the public domain, or are so located that their utilization would involve some part, small or large, of the public domain. The latter are more directly subject to Federal regulation. Therefore, approximately 10,000,000 kilowatts of available water power are now unnecessarily wasting in the United States because of obstacles to development presented by the prohibitions and insufficiencies of Federal legislation.

As the legislative obstacles are mainly those of Federal legislation, the citizens, speaking from a national viewpoint, may be

said to deserve the loss thus suffered until the national electorate shall force its legislature, the Congress of the United States, to make legislative policy consistent with water-power development. But the right and interest in the solution of the problems presented are localized. The necessity for their solution, through the enactment of constructive remedial legislation, is best appreciated and understood only in those localities where natural water powers are most largely situated. No matter that the legislature of a State may shape its statutes so as best to promote water-power development, that State must continue to suffer from lack of development so long as the Federal Congress shall persist in a restrictive and unwise legislative policy prohibitive of investment.

In the state of Alabama, for example, investors with ample capital, anxious for water-power investment, have sought reasonable conditions for the development of the 300,000 kilowatts of energy still wasting in the large streams of that State. The state laws there are framed to attract investments; but, by the Acts of the Federal Congress, reasonable and business-like conditions have been denied. Thereby that State and its citizens, as well as investors who wish to locate there, have been denied the privilege of utilizing, for the benefit of that State and of the nation, the natural water-power resources which are wasting within its borders. The same is true in the State of Washington, with 600,000 kilowatts of power still wasting; in New York, with not less than 250,000 kilowatts waiting for development; and in Tennessee, with 200,000 kilowatts unutilized. In the thickly settled State of Connecticut, which has an area less than one-third that of Denmark but with about one-half as much population, development is retarded to the extent of 50,000 kilowatts.

Other similar instances of prohibited industrial development, demanded by other states and their citizens, in connection with feasible utilization of wasting water powers, exist through the refusal of the Federal Congress properly to exercise its jurisdiction. Such has been the prohibitive attitude of the Federal Congress in its persistent refusal to remove statutory obstacles, which are admitted to be unnecessary and unwise, that, since about 1907, there has been no water-power development upon the navigable streams of the United States under any Federal permit granted within that time. And yet the same period has marked a greater advance in the science of development, transmission,

and utilization of energy from water power than during all the years preceding.

The same restrictive policy of inaction has characterized the legislation of the Congress with respect to the sale and leasing of water powers upon the public lands of the United States. These comprise those lands which have not yet passed to private ownership, but which are still owned and controlled by the Federal Government in its capacity as proprietor. They are known as the "public domain." While some investors have been willing to encounter the hazards of uncertain tenure and the menace of arbitrary revocation of their rights granted under leases from the Government, they have, for the most part, shrunk from the restrictions and uncertainties in which their investments would be involved. The result is, that millions of kilowatts of water-power energy, the development of which under reasonable legislative conditions would attract capital, are left wasting on the public domain.

Many large industries, after long waiting for the promised remedial legislation which would allow business-like conditions for their investments in water-power development in the United States, have lost hope of any coöperation by the Federal Congress. They have become inclined even to distrust the good faith of that body. Some of them have gone to Canada, to Norway, and to other foreign countries. Some have retreated to the smaller streams in the mountainous regions, where the cost of development is greater, but where business-like protection of their investments is safeguarded by state statutes, free from the caprice and uncertainties of Federal interference.

The present waste of water powers in the United States thus outlined is due to legislative obstacles, and particularly to the obstacles presented by the defects in Federal legislation. No substantial progress in the utilization of the water-power resources of our country will take place until the legislative policy of the Federal Congress is changed. I am, therefore, presenting the most important water-power problem which is now before the people of the United States when I explain these legislative obstacles and the difficulties encountered in any attempt to overcome them.

CONDITIONS AFFECTING THE WATER-POWER PROBLEM

In order that a foreigner, for example, a citizen of France, may understand the difficulties presented in any attempted solu-

tion of the water-power problem in the United States, it is necessary, at the very outset, that he should have in mind certain conditions there existing which are, in a large measure, peculiar to that country. Such conditions may be generally classed as (1) physical, (2) constitutional, and (3) political.

Physical Conditions: The physical conditions are different from those presented in any European country. The water-power problem in the United States applies to an area which is approximately equal to that of all Europe. In that great territory the topography of the country and the size and character of its streams are at least as varied as those of all Europe. Moreover, from a national viewpoint, this entire territory comprises one country under one government; while, from the viewpoint of the States, it comprises some fifty separate sovereign governments. Europe includes about twenty countries, each with its own supreme government, subject to no paramount jurisdiction.

Next, the ability to market water-power energy and the products therefrom is a most important factor. While industrial development, which means demand for power, is not necessarily coincident with density of population, nevertheless facilities for marketing power are generally, in different localities, proportionate to population. It is significant, therefore, that with about the same area, the density of population in the United States, as compared with that in Europe, is as 1 to 6. If we exclude Russia in Europe, the area of the United States is nearly three times that of Europe, and the density of the population, as compared with that of Europe, is as 1 to 20. Nevada, which is about half the size of France, has a population of less than one person to two square miles. In some well-populated States of large size there are few or no water powers. Texas, with an area greater than that of all France, has, comparatively speaking, no water-power facilities, either developed or undeveloped. Likewise with North Dakota, although it has an area six times that of all Belgium.

Another important physical fact is, that, despite the stupendous extension of railways in the United States, there are yet large expanses of territory, rich with water power and other natural resources, to which no modern means of transportation have as yet come. For instance, using maps of the same scale, upon a map of Oregon one can place a map of Ohio, a state

of nearly half the size of Oregon, without touching any point yet traversed by a railway. And Oregon is nearly one-half the size of France.

Again, the coal resources of the United States are being rapidly exhausted. The total annual coal-consumption there is somewhat in excess of 500,000,000 tons. At the present rate of consumption the anthracite-coal supply will disappear before the end of the present century. While the supply of bituminous coal, the total amount of which has been computed, may last for centuries, the price of coal is steadily increasing. At present such increase is more than offset by the increased economy in the use of steam power. The investment-cost of water-power development per kilowatt produced is generally greater than that of steam-power development. In many instances, indeed, fair interest on the difference would supply coal for a steam plant. It is only under exceptionally favorable conditions that water power can to-day compete with steam power. Every arbitrary restriction tends to make competition still more prohibitive of water-power investment. Except for such artificial handicaps, however, economy would demand, more and more as time advances, the use of water power as against steam power. But the economy to the consumer is not of the most importance. To the extent that water powers commercially capable of development are left unutilized, to that extent are national economies violated. Such waste is a direct waste; but it involves a further waste,—that arising from the using up of coal resources which, under proper administration, might be prevented by the use of the wasting water powers, the latter being constant and, from their very nature, not susceptible of exhaustion. Conservation—which signifies saving from waste—means, as applied to coal, the greatest possible prevention, or at least postponement, of use. As applied to water powers, conservation means the greatest and most immediate use possible.

Constitutional Conditions: Serious difficulties, peculiar to the United States, are presented by reason of the property laws of that country and certain provisions of constitutional law to which all legislation must be subject. The Federal Congress is a legislature of expressly limited powers, these limits being specified in a written Federal Constitution. This fundamental law not only limits the powers of the Federal Congress, but also contains certain limitations upon the powers of the state legislatures. All powers, however, which are not by this instru-

ment expressly delegated to the Federal Congress and which are not therein expressly forbidden to the States, are reserved to the several States as separate, sovereign governments. The laws of property rights, though, generally speaking, in accord throughout the various States, are not always uniform as to some subjects of property. This is particularly true in regard to the ownership of water powers, that is, with regard to the property right of their utilization. Subject to the exercise by the Federal Congress of the powers expressly limited by the Federal Constitution, the law of property rights with reference to water powers is determined by each State for itself.[2] This does not mean that the state legislature may at any time arbitrarily establish or change such property right. The nature and extent of such power in each State is determined by the law as already established by the decisions of the highest court of that State. When once so established the State may not legislate in derogation of such property right without infringing the prohibitions of the Federal Constitution, which prohibits legislation, Federal or State, from encroaching upon established personal or property rights.

The only power or control by the Federal Congress over water powers or over water-power streams is through the exercise of the power expressed in the Federal Constitution "to regulate commerce" between the States. This expression of power has been construed to include the power to regulate the means of inter-state commerce, and, therefore, to include the power to regulate the commercially navigable streams of the country for the purpose of protecting their uses for navigation. The Federal Congress, therefore, has prohibited any structure in the bed of navigable streams except after express statutory consent by the Congress and subject to the approval of the War Department of the United States, including its Chief of Engineers.[3]

It is obvious that such statute is, when properly viewed, one for the regulation of commerce and not one, either directly or indirectly, for the regulation of water powers as such. Obviously, also, as the power of regulation can extend no further than that which is expressed in the Federal Constitution, the right of regulation of the highway streams is limited to what

[2] *Water Power Co. v. Water Commissioners,* 168 U. S. 358.
[3] Act of March 3, 1899, 30 U. S. Statutes at Large, 1121.

is necessary to protect the interests of navigation. Beyond that, and subject to such limited Federal power, the power of regulation and other legislative functions with respect to water powers belong to the respective States.

The present problem in the United States is, What kind of statute shall express the Federal consent necessary to the development of water powers in navigable streams? What restrictions may and shall the Federal Congress impose? From the very nature of the fundamental law, the Congress must keep within its constitutional authority. It must not encroach upon the rights of the respective States. It must not infringe upon the rights of individuals as they have been established under state laws.

This problem of exercising Federal consent is further affected by divergent views as to what are the particular property rights of riparian owners in the different States. Generally speaking, such individual property rights, as established by the law of the respective States, are of two classes, according as the English common law of riparian rights has or has not been established and retained as the property law of a State. In those States which lie along or east of the Mississippi River, the English common-law doctrine prevails. There, subject only to the paramount right of control for the public use of navigation, first, by the Federal Government and, second, by the State, the riparian owner has, as incident to his real-estate right, not the ownership of the waters, but the right of use, for power and other private purposes, of the waters of the streams which naturally flow past his riparian land. This right is a real-estate right and as much a part of the property in the land as any other benefit which arises out of the location or nature of the land. Such riparian owner owns the right to develop and use all the water power which can be developed by the natural flow in the river under the head and fall within the limits of his riparian land. Neither this right nor the benefit of its use can be diminished or taken away without compensation. The owner must, however, yield his right of use, or conform the manner of such use, so far as necessary to improve the uses of the stream for navigation. His right is subject, not only to the natural navigation uses, but also to the use of navigation facilities which may be created by artificial improvements for navigation.

In the western states, generally speaking, there has been established, and now prevails, that rule with respect to water powers,

derived from the Spanish-Roman law, under which property rights to the use of the waters of streams for power, irrigation, or other private uses are, independently of the question of riparian ownership, dependent upon the priority and extent of actual appropriation.

So far as such property rights have been established in any State, and particularly where rights have become vested under such established property law, such vested rights are rights which, under the system of constitutional government of the United States, cannot be disregarded nor impaired by any legislature, whether it be of a State or of the Federal Government. Such encroachment is prohibited, not only by the Federal Constitution, but by the constitution of every State. State legislation, in order to be constitutional, must have regard for the limitations expressed in the state constitution and for limitations expressed in the Federal Constitution. It must also have regard for the constitutional powers of the Federal Congress to regulate streams in the interests of navigation, that is, to regulate commerce. Legislation by the Federal Congress, on the other hand, must be within the limits of the power expressly delegated to the Congress, which power, so far as water powers are concerned, is to regulate commerce. It must also leave to the respective States all other powers of regulation, so far as the property laws of those States have established such regulative power. In all water-power legislation, Federal or State, vested individual property rights must be safeguarded.

Obviously, it is not within the power of the Federal Congress to exercise direct legislative control over water powers as such. Neither is it within the power of any State to assume plenary legislative power over the water powers within its borders. The extent of the legislative power of a State in this regard is limited by the constitutional provisions protecting property rights, which have been referred to, and by other limitations of its powers already suggested. The power of legislation is not measured by the nature or extent of the general public benefit to which such legislation might be conducive. Legislation, both Federal and State, is limited by more than considerations of general public policy.

In respect of these limitations upon legislative powers of the Federal and State Governments, the problem of legislative control of water powers in the United States presents many differences from the legislative problems with respect to water powers existing generally in France and other European countries.

There is also the other difference which has been suggested, that between the power of Federal regulation, on the one hand, of water powers which are part of the public domain, that is situated upon the lands owned by the United States and which have not yet passed to private ownership, and, on the other hand, of water powers which are appurtenant to riparian lands, but situated on the large navigable streams outside of the public domain.

Political Conditions: There are other conditions affecting the water-power problem in the United States which are neither exactly physical nor constitutional. They are, rather, temperamental or subjective in their nature. They arise from certain mental attitudes assumed by some legislators and by some citizens representing policies in regard to water-power legislation, which policies are inconsistent with physical conditions or which are repugnant to constitutional law. Such policies are not issues of party politics. Their influence, however, is obstructive of remedial water-power legislation. Such influences, therefore, may, in a broad sense, be termed political conditions.

In the United States, if the expressed constitutional limits of legislative power shall be passed, it is the function of the courts so to declare. The determination by the courts of such judicial question with respect to any legislative provision, is final. When the question of the constitutionality of a statute comes before the court the presumption is, that the legislature has acted within its powers and that, so far as it had discretion, it has exercised such discretion reasonably. The contrary must appear, even beyond reasonable doubt, before the courts will nullify an act of a legislature. The correct theory of our Constitutional Government assumes that, in framing a statute, the legislative body will carefully and deliberately do its utmost to guard against any unconstitutional legislation and that, if it transpires that any such legislation has been enacted, it was through a conscientiously mistaken view of the scope and effect of existing constitutional provisions. Such theory, however, is not in fact applied. There is an increasing tendency on the part of legislators, Federal and State, in the United States, to disregard or to attempt to circumvent constitutional prohibitions. The tendency is to legislate in accordance with what is deemed to be the demand of current popular opinion, and to leave to the courts alone the duty of scrutinizing statutes, after their enactment, and to pick out the statutes or the

provisions of statutes which are palpably repugnant to the fundamental law and which, therefore, must be rejected as invalid. The tendency of the modern legislator is toward an almost reckless disregard of constitutional limitations. He seems to evince a willingness, not only to injure personal and property rights to the very limits marked by constitutional prohibitions, but to transcend these limitations to the utmost extent that may seem consistent with the temporary current opinion of his constituents. He shirks the responsibility of gauging legislation by the rule of the Constitution, and puts that responsibility entirely upon the courts. I do not hesitate to say that this tendency to reach and to exceed the limits of their constitutional powers, is now so generally prevalent on the part of legislators, Federal and State, that statutes are frequently passed in the United States encroaching upon personal and property rights which, for that very reason, would be rejected by the parliaments of Canada or England, or by the legislative bodies of other countries whose powers of legislation rest substantially upon the wise exercise of broad, unlimited discretion.

This tendency on the part of legislators to disregard their expressly limited powers has been rebuked by the Federal Supreme Court. In the case of *Knoxville vs. Water Company*,[4] that court said:

> The courts ought not to bear the whole burden of saving property from confiscation, though they will not be found wanting where the proof is clear. The legislatures and subordinate bodies, to whom the legislative power has been delegated, ought to do their part. Our social system rests largely upon the sanctity of private property, and that State or community which seeks to invade it will soon discover the error in the disaster which follows.

This evil tendency of legislators clogs the efforts to enact wise water-power statutes.

The foregoing suggests another condition affecting this question. I refer to the influence of those who, in substance, advocate modifications, changes, and even suspension of constitutional limitations through judicial construction and by other devious methods, instead of by the process of amendment expressly provided. They urge that the courts should, by interpretation and by viewing the so-called "police power" of the government as

[4] 212 U. S. 1, 18.

paramount to every provision of the fundamental law, circumvent constitutional limitations, and thus leave the legislatures unhampered in their efforts to legislate in derogation of property rights. Such agitators, upon the plea of public policy, urge legislation, and its enforcement by the courts, which would, in effect, confiscate to the governments, Federal and State, the ownership of all the natural water powers of the country and of the right to all the proceeds and benefits arising from the development and use of such water powers. Such theorists, by the advocacy of their extreme views, have been an obstacle to the passing of proper water-power legislation.

The same influence is exerted by those who advocate greater centralization of powers in the Federal Government, and who, by legislation encroaching upon the rights of the respective States and of the property rights of their citizens, would make of the Federal Government one which is paternalistic—one which, under the guise of regulating commerce, would lay its hand upon every industry, and, indeed, would own and operate throughout the country all the instrumentalities of commerce, of transportation, and of communication.

These and other obstructive influences are in a measure socialistic in their tendency; for the socialists in the United States center their active opposition to existing institutions in attacks upon the limitations of the Constitution. Their effort is to promote disregard for the Constitution. They would have the courts refuse to recognize the constitutional prohibitions upon legislation. They claim that the judicial function to declare statutes unconstitutional is exercised only by usurpation by the courts themselves. They would deprive the courts of this function, and open the way to the elimination of the right of private property by vesting in the voters themselves the direct and arbitrary power, not only of initiating and passing statutes, but also of dictating to the courts as to the enforcement of all statutes, irrespective of the question of constitutionality.

Paradoxical as it may seem, it is nevertheless true that the most obstructive influence in the United States against the conservation of water powers is that exerted by some agitators who arrogate to themselves the title of "conservationists."

As the investment of private capital is indispensable to water-power development, a consistent conservationist would promote legislation affording conditions attractive to such investments. One who, either as a citizen or as a legislator, hinders such

legislation is not a conservationist. He is an obstructionist. When such an obstructionist seeks to incite prejudice against remedial legislation by spreading mis-information among legislators and the people, and when he seeks, by advertising himself and his fallacies in public print, to further his own political ambitions, he becomes, what we call in America, a demagogue. We have, in the United States, many such pseudo-conservationists whose baneful influence has retarded water-power legislation and is now obstructing earnest attempts to enact constructive, remedial laws. One of these, now a candidate for United States Senator, dominates a certain voluntary organization which, as far as water powers are concerned, is mis-named a "conservation" congress.

This set of agitators are now conducting an organized campaign for the purpose of creating prejudice in the minds of the general public and in the minds of the members of the Federal Congress against the removal of the existing legislative obstacles to water-power investments. Their idea of "conservation" of water powers is, in effect, to retard or prevent utilization. They advocate that, by means of statutes for such purpose, the Federal Government should assert legislative control of all the water powers on all the streams and their tributaries, small and large, and of all the watersheds. They would repudiate the established private property rights in the riparian-law States, and would enact and enforce legislation depriving riparian lands, and their owners, of the benefit of the use of water powers. They would confiscate either the water powers themselves or the proceeds thereof for the benefit of the general Government as custodian for the people at large. They would enact such legislation, and procure its enforcement, by devious methods of disregarding constitutional safeguards to property rights.

All this they would prefer to have accomplished through the Federal Congress, under the pretext of exercising its limited power to regulate commerce. It is obvious that such Federal legislation, besides encroaching upon property rights in many and, indeed, in most of the States, would also encroach upon the power of control reserved to the States. Moreover, it would deprive a State rich in water-power resources, and its citizens, of the full lawful benefit of such resources belonging to such State and particularly to the individual riparian owners therein. If such result could not be effected by Federal legislation then

this same class of extremists would have similar powers of legislation exercised by the respective States.

These agitators represent neither progress nor reform. Their attitude is as regardless of fundamental law as that of any socialist. The legislation which they favor is impossible under our system of Government, because it would be inconsistent with any lawyer-like or judicial view of legislative powers. The persistent advocacy of their ideas, however, clouds the real issues of the problems confronting the legislatures of the nation and obstructs their solution.

A mere summary of the facts objectively disclosed with regard to water-power development in the United States, would give no adequate comprehension of the nature of the problem there presented; much less would it suffice to explain the difficulties which have so long stood in the way of its solution. I have, therefore, not confined myself to figures showing lack of development, nor to a recital of those water-power legislative measures which are now in force and those which are proposed for enactment. The water-power problem in the United States involves a contest between possible and impossible theories of legislation. The obstructive influences are largely subjective; and their persistence constitutes the chief cause of the retention of legislative obstacles and, hence, the chief cause of the continued stagnation of water-power improvement in our country. Having explained the nature of the conditions affecting legislation, I will next briefly outline existing water-power statutes in the United States and the remedial legislation proposed for the purpose of promoting water-power utilization.

FEDERAL LEGISLATION

The present retardation through Federal legislation and its possible remedies involve three classes of Federal control of water powers.

Water Powers on the Public Domain: The "public domain" comprises those various tracts of land, mostly situated in the far western states, owned by the Federal Government under a title which is proprietary in its nature, as distinguished from a purely sovereign right of control or regulation for a particular public interest. Such lands include, for the most part, those which are known as the forest reserves. Connected with this

same class are water powers which are neither on, nor a part of, the public domain, but the utilization of which, either for flowage, transmission-lines, or other purposes, requires some use, small or large, of lands which are a part of the public domain.

In order to develop water powers which are a part of the public domain, the investor must first obtain a permit from that Department of the Government having jurisdiction of the land in question. This is generally the Department of the Interior. The permit must cover the right to construct and maintain and operate the dam, power-plant, and transmission-lines. But such permit is revocable at the will of the Department by which it is granted, and is subject to such conditions as that Department may impose, not only when the permit is granted, but subsequently thereto. Indeed, the permit, under certain circumstances, may be automatically revoked, as by entry by a third person under the homestead or mining laws.[5] This unlimited power to make conditions in the permit and to change the same, allows the head of the Department to exact pecuniary burdens and tributes, the amount of which, from time to time, depends upon the discretion of such official. He has not power to grant a permit for any term which would, for any length of time, give stability to investment, nor the power to make the terms and conditions thereof free from unlimited uncertainties. Private capital has halted before such unbusiness-like conditions. As against over 5,000,000 kilowatts of water power subject to public-domain law which are now capable of commercial development, less than one-tenth of that amount has been developed.

But these prohibitive rules do not alone apply to the water powers which are themselves a part of the public domain. There are many millions of kilowatts of developable water power so located that their development or operation requires some use of some portion of the public domain, either for power plants or transmission-lines. Under the present laws such incidental use, however small, of any part of the public domain is subject to permits from government officials, always revocable at will and subject to conditions, and changes in conditions, at the discretion of the official granting the permit. This extends the features of uncertain tenure and of indefinite and changeable conditions to such an extent that the development of this class of water powers has been for years, and still is, at a standstill.

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[5] Acts of Feb. 26, 1897, June 4, 1897, Feb. 15, 1901, and Feb. 1, 1905.

Water Powers on Navigable Streams: Next, are the water powers upon navigable streams outside the public domain. The power of control by the Federal Government over these arises solely from its limited constitutional power to regulate commerce. This is in no sense a proprietary right or interest. It is merely a limited sovereign right of control for the particular purpose specified. Subject only to that limited paramount right, all rights of regulation and proprietary rights to the use and benefit of water powers belong to the States and their citizens, the rule of property rights being fixed by the law of the respective States.

The Act of March 3, 1899, already cited, provides, consistently with the constitutional power of the Congress to regulate commerce, that no obstruction, including water-power dams, shall be constructed in the bed of a navigable stream without the consent of the Congress. This prohibition and the reserved power of consent are logically retained for the sole purpose of protecting the present and future uses of streams for navigation. The consent provided had, until 1906, in accordance with the statute of 1899 and previous similar statutes, been granted in each case by a special act of the Congress. Each such statutory consent contained such provisions as might be agreed upon between the Congress and the private investor who was the grantee under the consent. These different special acts vary in the nature of their conditions; but under most of them construction has been made and vested rights thereby acquired. Nevertheless, the legislative tendency to disregard private property rights and investments made in good faith, is shown by the claim now asserted by many, that the general power of repeal or amendment reserved in those special acts makes such investments lawfully subject to any further burdens or conditions which the Congress shall at any time arbitrarily impose.

This claim originated, not only in the increasing tendency, already outlined, of legislators to disregard the equitable as well as the legal right of investments already made, but also in the growing prevalence of that class of agitators, already referred to, who falsely pretend to represent the cause of conservation. Disregarding the constitutional limitations of water-power legislation, they argue that, as water powers upon navigable streams can be lawfully developed only after consent by the Congress, therefore the Congress may attach to such consent any conditions which it chooses to establish—that it may law-

fully impose any burdens upon the investor or reserve any right of tribute or other advantage to the Government—all as conditions to its consent. What the constitution does not permit directly, indeed that which it prohibits, they would accomplish by indirection. They urge legislation by which the advantages of water-power use and the revenues therefrom shall be turned, either from the States in which they were located or from the individuals having property rights therein, to the general government as representing the people at large.

The advocacy of this theory of conservation, and the contest over its application in legislative form, have been, more than anything else, the cause of the lack, in the United States, of proper legislation for water-power development. It was intended by the Acts of June 21, 1906, and of June 23, 1910, to establish the statutory conditions for any consent by the Congress so that afterwards the terms of those Acts should become part of any consent granted. It was the fallacious theory of conservation already suggested that made those acts prohibitive, instead of promotive, of private investments. It is also the same pseudo-conservationists who are urging still further legislative restrictions and burdens upon investments, and who are now harassing the legislators and the present administration at Washington in their earnest attempts to enact legislation which shall remove the present legislative obstacles to private investments.

By these Acts, of 1906 and 1910, the term of the consent cannot exceed fifty years; and at the end of that time the investor has no rights. More than that, even before the expiration of the fifty years the consent may at any time be arbitrarily revoked without a return to the investor of more than a part of his necessary investment. The investor, therefore, must, in addition to what would otherwise be fair service-charges, make his charges for service to his consumers sufficient, within that period, to pay back to him the entire cost of his investment. No consideration is taken of the fact that the investor might have to wait five or ten years, or more, to build up a market which would consume the products of the full capacity of his plant. By the increased service-charges imposed he cannot in many localities meet the competition with steam power, which, in many places, at the present cost of steam power, is very close. Indeed, in some places the advantage is in favor of steam power. In addition to this, the same Acts reserve to the War Depart-

ment of the Government the power to impose conditions as a part of the permit to be issued by that Department under the consent given by the Congress, and also to change such conditions, according to discretion. There is no fixed limit to such possible conditions and burdens, thus making the basis of the permit and the conditions to be fulfilled vague and uncertain.

These Acts and the policy therein announced have been so prohibitive of investment that investors, almost without exception, have refused to apply for or to accept any permits under them. Their prohibitive effect upon investment, and therefore upon the development of water powers, has been demonstrated by experience. Reports to the Congress, by those who have investigated the question officially and otherwise, are recognized, by all who really seek a business-like solution of the problem, as proving the insufficiencies of the existing law.[6]

The present Congress is now struggling with this question. Those who appreciate the situation are seeking to remove the present legislative obstacles sufficiently to offer business-like terms and conditions for private investment. They would make the conditions of the Government permit sufficiently broad to admit of the preservation of all present and future navigation interests. They would, however, make all conditions and all burdens upon the investor as specific and definite as possible, in order that the investor may know in advance the extent of his necessary ultimate investment. They would make the term of the permit indeterminate, and revocable only for cause, or renewable at its termination upon reasonable terms, thereby assuring reasonable stability of investment and avoiding the necessity of excessive charges upon consumers. The question of rates to consumers, it is proposed, shall be left to the commissions of the respective States. The public interests are to be protected by ample provision for revocation proceedings in case of default by a grantee in the performance of the conditions imposed.

Whether such remedial legislation shall be enacted depends upon the extent to which the pseudo-conservationists, above referred to, shall be able to exert their influence against the measures now under consideration. These obstructionists are conducting an organized campaign for the purpose of creating

[6] Report, National Waterways Commission, Senate document 469, 62d Congress, 2d Session, page 54.

prejudice in the minds of the general public and in the minds of the members of the Congress against these constructive and remedial measures. In the meantime the leading members of the Congress, most of whom have informed themselves on the question, are working, irrespective of party politics, to join with the present administration in an attempt to have enacted the only legislation which will remove the present legislative obstacles to water-power development.

Water Powers at Government Navigation-Dams—There is a third class of water powers, not included in the two foregoing, which are also under Federal control, which control, however, rests upon a basis different from that of the other two. The Federal Government sometimes, at its own expense, builds and operates navigation-dams for the general use of the public. At such dams the water which is not necessarily used for navigation affords, under the head and fall of the navigation-dam, a developed water power. Such water power is incidental. The Government, however, having acquired the riparian rights for its navigation improvements, thereby becomes proprietor of such incidental water power. The scope of its proprietary interest depends upon the extent to which it has acquired the riparian rights; for to such rights, as we have seen, the proprietary interest attaches. It also depends, of course, upon the extent to which the law of the State in which the dam is located vests in the riparian owner the property right to the use of water power incident to his land.

When the Government has acquired all the riparian rights to which the water powers are incident, and has at its own expense constructed a navigation-dam, then the water power incidentally developed thereby is rightfully considered to belong to the Government and may be granted, leased, or sold by the Government as by any other proprietor.

But in many instances the physical conditions are such that the development of water power alone would be so expensive that it would not yield fair returns upon the investment. At the same time improvement for navigation at Government expense might be too costly either as a navigation or a water-power improvement, or both. In such instances the public interests would best be served by a coöperation between the Government, in the interests of navigation, and the private investor, for the purpose of water-power utilization. This class of cases

is met by the policy of a coöperative agreement by which the private investor furnishes such part of the necessary investment as he can economically furnish, and the balance is furnished by the Government. Thereby both navigation improvement and the development of water powers are procured. The terms of such agreements vary according to the different conditions in each case. This statement applies to those dams which, from the Government viewpoint, are primarily navigation-dams, as to the construction and operation of which special agreements are necessary.

Where a water-power dam in a navigable stream is constructed by private capital under Government consent, the policy of the past, as well as of the proposed legislation, contemplates that, to the extent which is consistent with a fair capital investment and a fair return thereon, the private investor shall construct, maintain and operate, free of expense to the Government, navigation facilities as a part of and in connection with his water-power development. This burden is deemed to be imposed as within the power of control in the interests of navigation.

STATE LEGISLATION

Upon the subject of state control of water powers in the United States, I shall offer little in addition to what has already been presented.

Each State, subject to the exercise of the Federal power of control, which has been defined, has all the rights of control over all the streams, or parts of streams, both navigable and unnavigable, which are located within the State, and over the water powers therein. This does not mean that each State may by legislation make water powers within its borders the source of direct advantage or revenue to the State itself. Each State and its legislature are bound by the law of property rights with respect to water powers which has become established in that State and under which vested property rights have been acquired. This makes the jurisdiction of the States over water powers somewhat varying. Generally speaking, in any State where the law of public ownership and control of water powers has been established as a property law of the State, a statute based upon such public ownership and control, and having regard for the particular property rights there established, would be a constitutional and enforcible statute. In such States individual

water rights are secured under laws regulating appropriation permits and in various ways controlling and limiting the right of private use. Such States are those among the States west of the Mississippi in which the property law of riparian ownership either has never been established or has been established only in a modified form.

But the rule is different in those States which, as I have said, lie generally along, or east of, the Mississippi River, and in which the law of riparian rights, both upon navigable and unnavigable streams, has been established as a property right. In such States a statute would be unconstitutional if based upon the theory that water powers are a resource belonging to the entire State, or that the advantages and revenues from developed water powers belong primarily to the entire State. It would be declared by the courts invalid, as confiscatory of vested private riparian property rights. It should be kept in mind that the vested property rights referred to are not confined merely to the right of advantage in water powers actually developed. The right of development, that is, the right of the use, of water rights which are appurtenant to riparian land, whether the water powers are developed or not, is itself an incident to the real estate. As the books say, it is a right belonging to the riparian land *jurœ naturœ*. Under our law the only difference, as between navigable streams and unnavigable streams, is, that this property right is subject, in the case of navigable streams, to the exercise of the paramount Federal control for the specified purpose of protecting navigation interests.

In the formulation of State water-power legislation these distinctions are often overlooked. Some States have formed commissions to control water powers under statutes which view the public right of ownership and control too broadly, and which in effect restrict the vested rights of riparian owners to the point of confiscation. The extent to which such statutes may be enforced must yet be determined by the courts.

In some States the courts have already declared against such attempts at confiscation. The legislature of Wisconsin passed a statute two years ago which was based upon the theory of State ownership and control of water powers, and which, in substance, attempted to repudiate the law of riparian ownership. The supreme court of Wisconsin promptly declared that statute

invalid on the ground that it infringed the established private property rights belonging to riparian land.[7]

It may be said, however, that the several States are anxious to have their respective water-power resources developed and used; and that, if water-power legislation were confined to that of the States, there would have been no lack of progress such as now exists in the United States in regard to water-power development. The present demand is for large power sites instead of for small ones such as are found upon the small, unnavigable streams. The demand is for the opening up of the water powers upon the large "navigable rivers" of the country. This does not mean alone those rivers which are at present actually navigable. The term is held to include all rivers, and those parts of rivers, which are reasonably capable of artificial improvement for commercial navigation. Therefore, it includes those streams upon which substantially all of the large water powers of the country are located. State legislation can never open up these water powers to use until Federal legislation shall be so adjusted that private capital may feel reasonably safe in making investments in such water-power developments.

Water-power capital in the United States is now waiting for the removal of the Federal legislative obstacles which are prohibitive of investment. Until they are removed the great water powers of the United States will continue to waste. Meanwhile the industrial development which would thereby be built up in our country is being driven to foreign countries, where a less suicidal legislative policy is retained.

ROME G. BROWN.

MINNEAPOLIS, MINN.

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[7] *State ex rel. Wausau Street Railway vs. Bancroft*, 148 Wis. 124.